

KENWOOD

KEC-202

ELECTRONIC CROSSOVER NETWORK INSTRUCTION MANUAL

DIVISEUR DE FREQUENCE MODE D'EMPLOI

AKTIVE FREQUENZWEICHE BEDIENUNGSANLEITUNG

ELECTRONISCHE CROSSOVER NETWORK GEBRUIKSAANWIJZING

CROSSOVER ELETTRONICO PER SISTEMI MULTICANALI ISTRUZIONI PER L'USO

FILTRO SEPARADOR DE FRECUENCIAS ELECTRONICO MANUAL DE INSTRUCCIONES

KENWOOD CORPORATION

Take the time to read through this instruction manual. Familiarity with installation and operation procedures will help you obtain the best performance from your new electronic crossover network.

For your records

Record the serial number, found on the back of the unit, in the spaces designated on the warranty card, and in the space provided below. Refer to the model and serial numbers whenever you call upon your KENWOOD dealer for information or service on the product.

Model KEC-202 Serial number _____

SAFETY PRECAUTIONS

WARNING

Observe the following instructions to prevent fires and personal injury.

- When the Power supply lead, Memory backup lead or Ground lead are extended, use a 0.75 mm² (AWG 18) or larger automotive grade cable which will withstand friction and heat to safe guard against fires occurring as a result of short-circuiting.
- Make sure that metal objects, particularly needles or coins do not get into the unit to prevent short-circuiting and fires.
- If smoke comes out of the unit or a strange smell is present, disconnect the unit immediately and consult your KENWOOD dealer. Continued use under these circumstances could cause a fire, as well as damage the unit permanently.

CAUTION

Heed the following instructions to keep the unit in proper working order.

- The unit should be connected to a 12 V DC power supply with a minus ground connection.
- Do not open enclosures, such as the front panel, top or bottom covers.
- Do not place the unit, where it will be exposed to direct sunlight or near heating devices.
- Do not dash water on the unit.
- Do not place the unit in areas of excessive dust, high humidity or on unstable surfaces.

NOTE

- If you have difficulty in installing the set in your car, please contact your KENWOOD dealer.

CLEANING

1. Turn the power off, before cleaning the unit.
2. Wipe the front panel and other exterior surfaces of the unit with a soft dry cloth or a soft cloth lightly moistened with a neutral detergent.

CAUTION

- Do not use abrasive pads, thinner or benzene (or other volatile solvents) to clean the unit as this may remove indicator characters.

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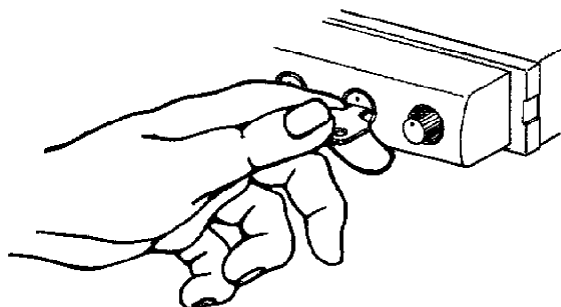
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CONTROLS

NOTE

Use the provided adjustment screwdriver for the following adjustments.



Fader control (P. 6)

Turn this knob to adjust the volume balance between the front and rear speakers.

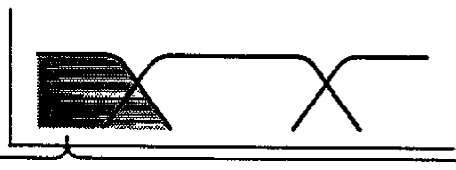
LOW switch (P. 6)

Set this switch to OFF when the low-frequency output from the rear speakers is not required.

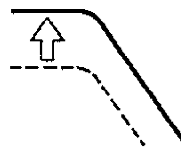
MID [2] switch (P. 6)

When a full range speaker system is constructed, set this switch to THROUGH.

Low output level adjustment

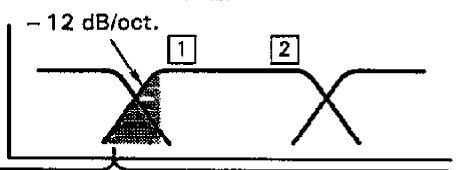


- Output level increase

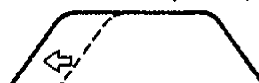


From ± 0 dB to +10 dB

Mid range crossover frequency adjustment [1]

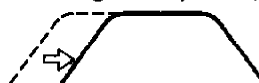


- To low frequency



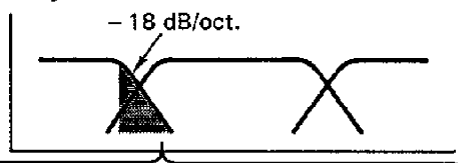
Down to 30 Hz

- To high frequency



Up to 800 Hz

Low crossover frequency adjustment

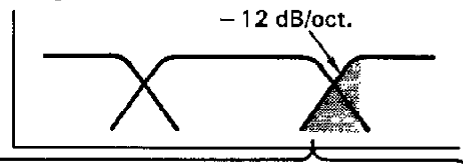


- To low frequency

 Down to 30 Hz
- To high frequency

 Up to 800 Hz

High crossover frequency adjustment

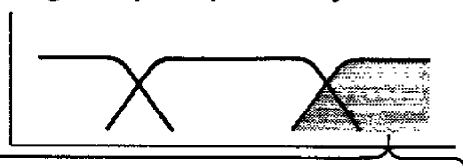


- To low frequency

 Down to 3 kHz
- To high frequency

 Up to 10 kHz

High frequency level adjustment



- Output level increase

 Up to +10 dB
- Output level decrease

 Down to -∞

Mid range crossover level adjustment

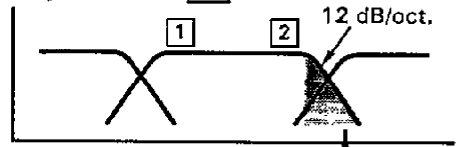


- Output level increase

 Up to +10 dB
- Output level decrease

 Down to -∞

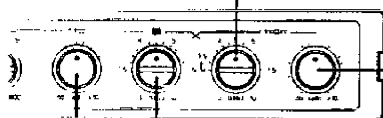
Mid range crossover frequency adjustment 2



- To low frequency

 Down to 3 kHz
- To high frequency

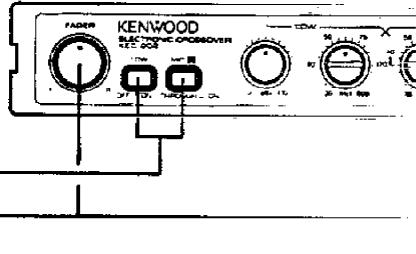
 Up to 10 kHz

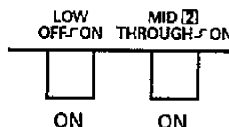
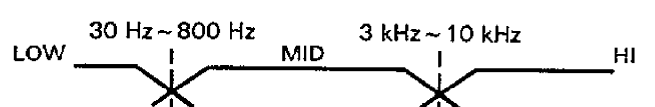
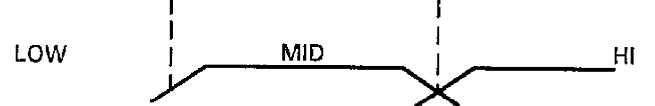
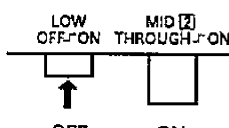
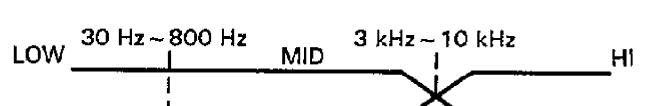
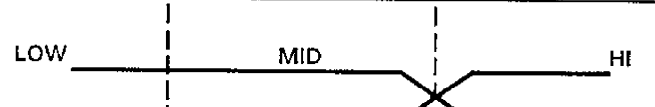
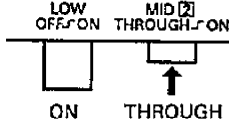
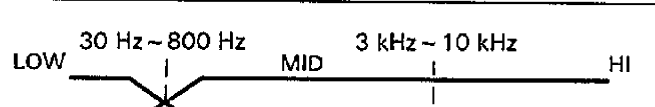
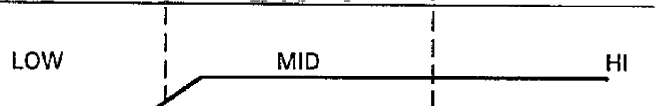
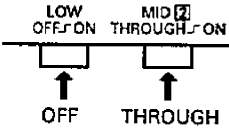
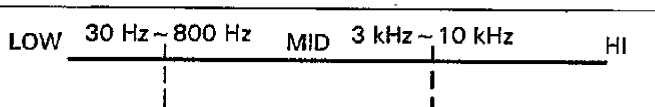
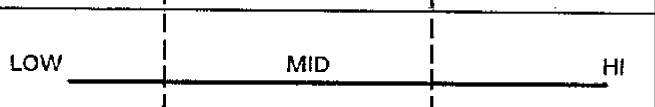


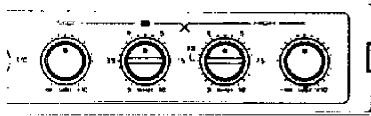
LOW/MID **2** SWITCHES AND FADER CONTROL

■ This unit can provide a total of 5 outputs; 2 front outputs and 3 rear outputs.

The outputs from the system can be controlled according to the setting of the LOW and MID **2** switches as shown in the following table.

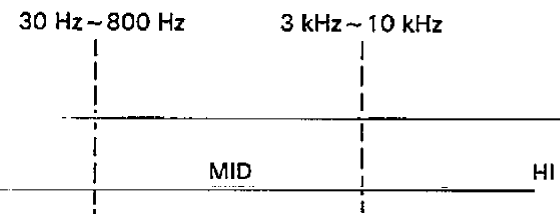
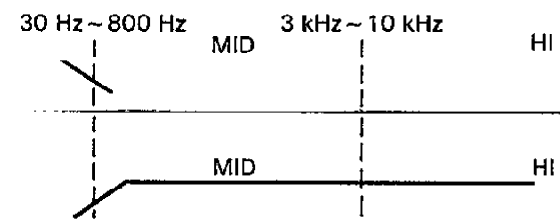
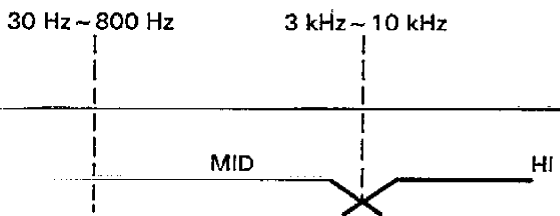
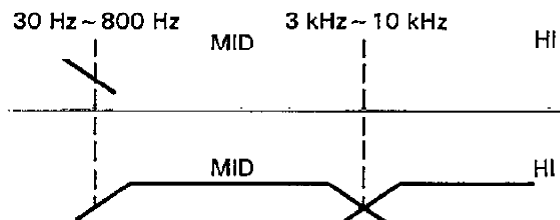


Switch position		Fader position		
3-Way system 	Rear output			LOW
	Front output			LOW
	Rear output			
	Front output			LOW
2-Way system 	Rear output			LOW
	Front output			LOW
	Rear output			
	Front output			LOW



Note

- The low-frequency output is output only from the rear speakers.
- The low-frequency output is not subject to the fader control.

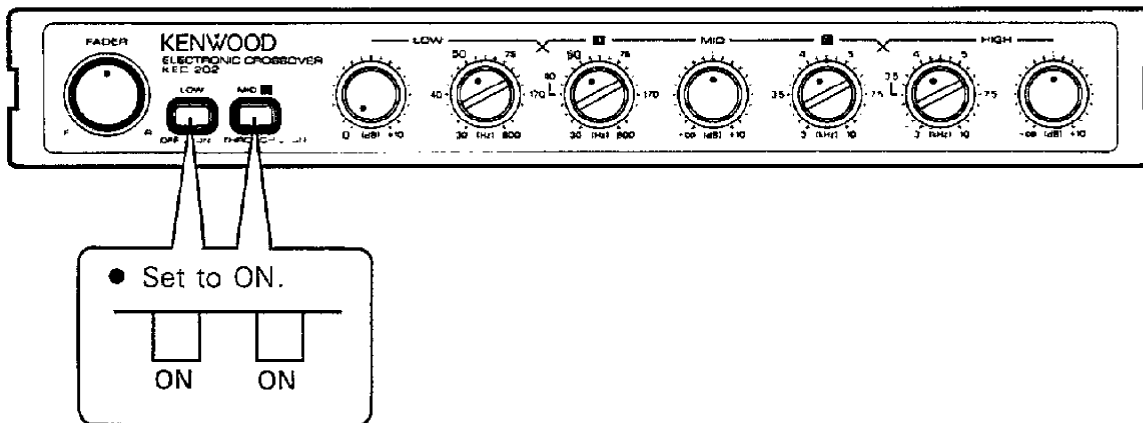
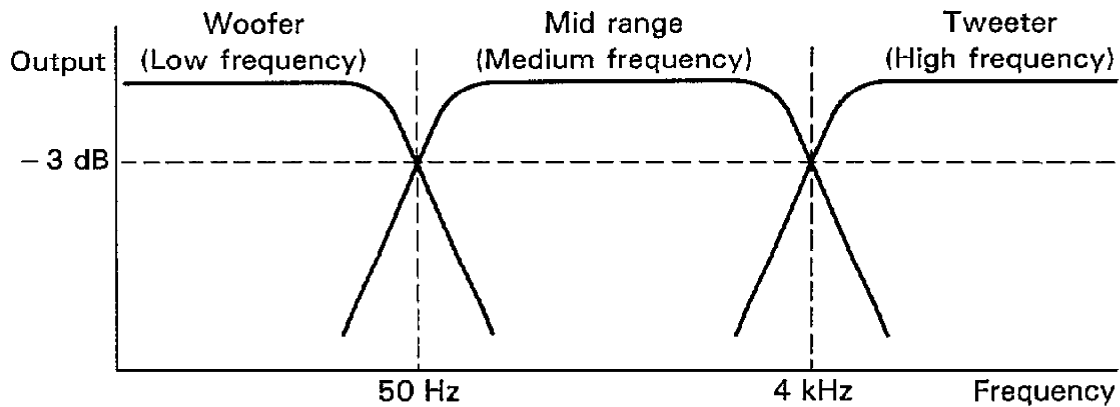


- A two-way system composed of full-range speakers and sub-woofer speakers can be constructed.
- The low-frequency output is output only from the rear speakers.
- The low-frequency output is not subject to the fader control.

EXAMPLE OF SETTING

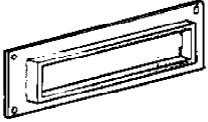






■ The example of control setting shown here applies to the case in which a speaker system as shown below is constructed.

- Tweeter (High frequencies) : 4 kHz or more
- Mid range (Medium frequencies) : 50 Hz to 4 kHz
- Woofer (Low frequencies) : 50 Hz or less



ACCESSORIES AND PROCEDURE

■ ACCESSORIES

	Part name	External View	Number of units		Part name	External View	Number of units
①	Panel frame		1	④	Flat head screw (M4 × 8)		4
②	Side bracket		2	⑤	Pan head screw (M4 × 8)		5
③	Bracket		2	⑥	Tapping screw (φ4 × 16)		4
				⑦	Adjustment screwdriver		1

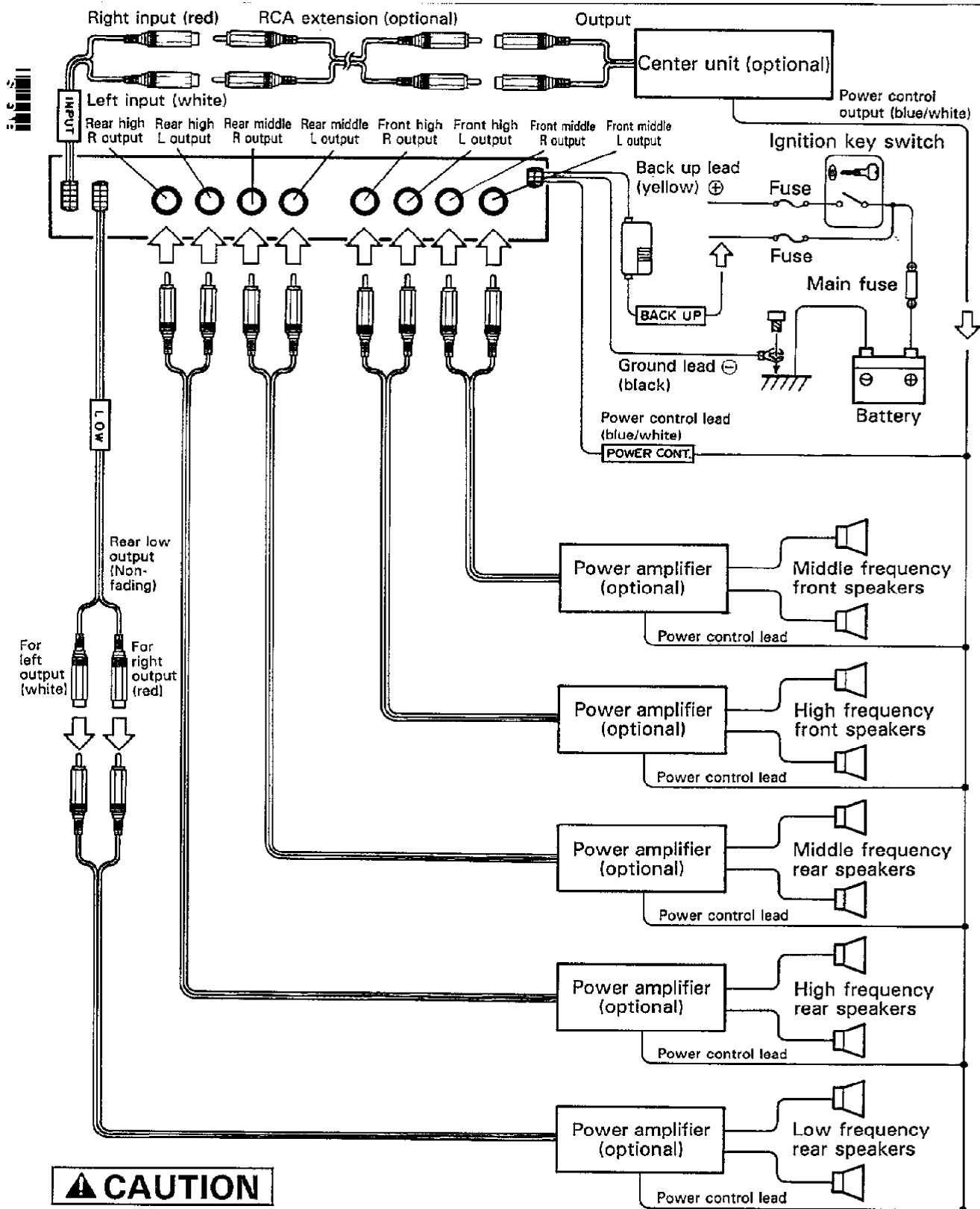
■ PROCEDURE

1. Before installation and wiring, remove the ⊖ terminal of the battery to prevent short-circuiting.
2. Connect the input and output cords of the system. (☞ P. 10)
3. Connect the Ground lead (Black) to the metal chassis of the car. (☞ P. 10)
4. Connect the backup lead (Yellow). (☞ P. 10)
5. Install the unit in the car. (☞ P. 12)
6. Connect the negative ⊖ terminal of the disconnected battery.

▲ CAUTION

- A short-circuit may be the cause of blown fuse. A short-circuit is a serious problem that can lead to a fire. Check the wiring and rewire if any wires are short-circuited. After this (or if no short-circuits are found), replace the fuse with one having the same capacity (see indication on fuse box).
- Make sure that unconnected wires and connectors are not in contact with the live chassis (ground) of the car to prevent noise and current from entering the system which can cause it to malfunction or damage the unit. For the same reason, caps on connectors that are not used should not be removed.

CONNECTIONS



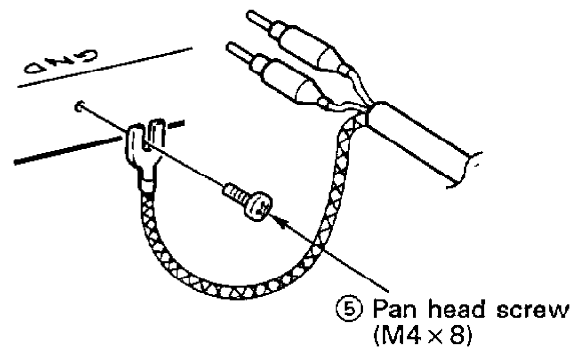
⚠ CAUTION

Be sure to connect securely the power supply to the power amplifier.

- Use the extension cables (optional).

	0.5 m	1 m	2 m	4 m	6 m
RCA	CA-2S	CA-12S	CA-22S	—	—
RCA (φ8 mm)	CA-3W	CA-13W	CA-23W	CA-43W	CA-63W
RCA (φ12 mm)	CA-5W	CA-15W	CA-25W	CA-45W	CA-65W

- If the RCA extension cable (optional) is provided with a GND wire, then, fix it into the threaded hole for GND on the rear of the main unit.

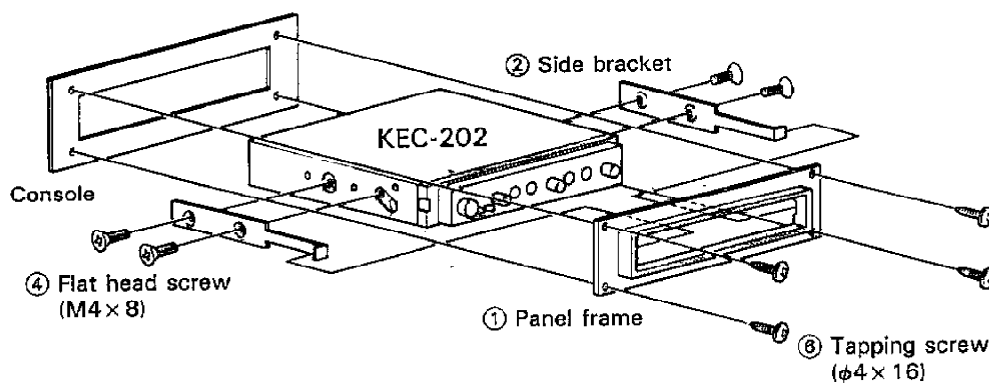


INSTALLATION

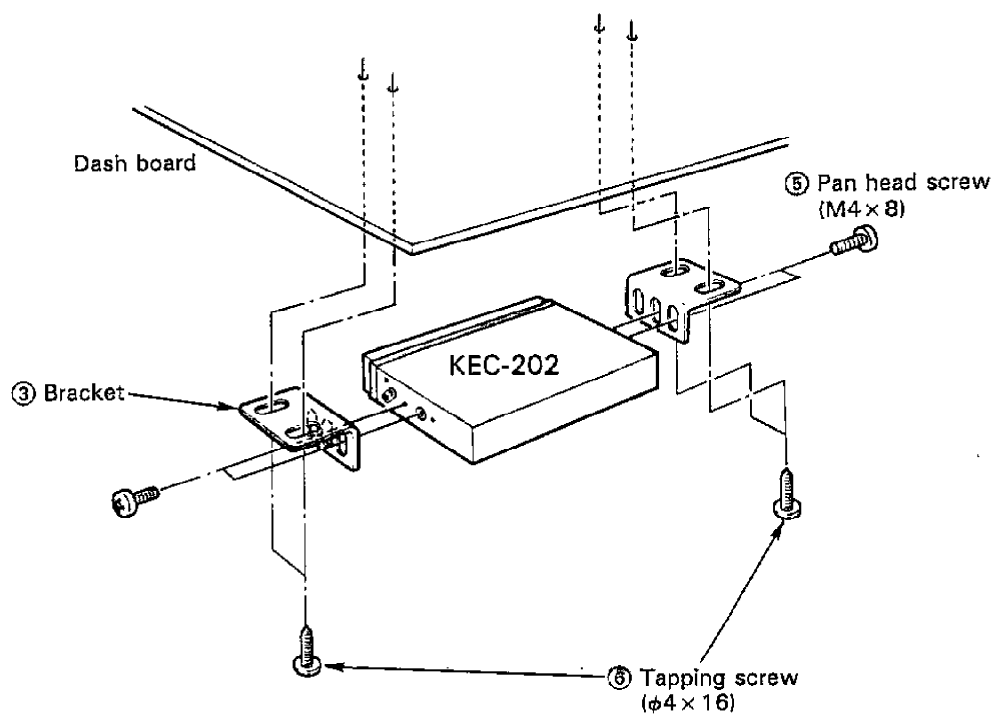
▲ CAUTION

- When installing in the car, choose the best position with regard to overall safety of the system and ease of operation.
- As installation fixtures, use only the accessories supplied.

■ Installing the unit in the dash panel:



■ Installing the unit below the dash board:



SPECIFICATIONS

Specifications subject to change without notice.

Crossover Section

Crossover Frequency

Rear	(Low).....	30 ~ 800 Hz
	(Mid Low cut)	30 ~ 800 Hz
	(Mid High cut)	3 kHz ~ 10 kHz
	(High)	3 kHz ~ 10 kHz
Front	(Mid Low cut)	30 ~ 800 Hz
	(Mid High cut)	3 kHz ~ 10 kHz
	(High)	3 kHz ~ 10 kHz

Slope

(Low)	18 dB
(Mid)	12 dB
(High)	12 dB

Level Control

(Low)	0 ~ + 10
(Mid)	- ∞ ~ + 10
(High)	- ∞ ~ + 10

Stereo/Mono

(Low)	Mono
(Mid)	Stereo
(High)	Stereo

Audio Section

Input Impedance	10 k Ω
Output Impedance (Low)	600 Ω
(Mid, High)	1.5 k Ω
Signal to Noise Ratio	100 dB
T.H.D.	0.01%
Frequency Response	10 ~ 60 kHz (- 3 dB)

General

Operating Voltage	14.4 V (11 ~ 16 V)
Current Consumption (MAX.)	0.1 A
Installation Size (W x H x D)	178 x 25 x 150 mm (7 x 1 x 5-7/8 in.)
Weight	0.8 kg (1.76 lb)

